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HOW TO...

INFECTIOUS DISEASES

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Vaccine hesitancy of the COVID-19 by health care personnel

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Abstract

Background: The determination of the acceptance of the COVID-19 vaccine by the health personnel will also be a guide for the upcoming vaccination studies. The aim of this study is to determine the acceptance status of COVID-19 vaccine amongst healthcare professionals.

Materials and methods: A total of 1138 healthcare workers participated in this cross-sectional study between 17th and 20th of September, 2020. The questionnaire, which was delivered via social media, was filled out by the participants over "Google Forms."

Results: As a result of the questionnaire, 68.6% of the healthcare professionals stated that they could be vaccinated. Men, students, the younger age group, and those who had a previous flu shot were all willing to get the COVID-19 vaccine.

Conclusions: Efforts to increase the knowledge of healthcare professionals about the new vaccine and to eliminate their doubts and concerns are important.

1 | INTRODUCTION

Immunisation is one of the most successful public health interventions in human history. Many infectious diseases could be controlled with vaccination.[1] Moreover, vaccine hesitation or rejection has become one of the most important problems and many polemics have begun in recent years. Vaccine hesitancy means "delays in admission despite the availability of vaccination services." Discussing the acceptance of vaccines, especially for vaccines that have been made for many years, has become an important obstacle in the fight against infectious diseases. Healthcare professionals are expected to be aware of the risks and benefits of vaccination, the risks of vaccine-preventable diseases and to communicate this information to their patients in the best way. Previous studies have shown that there is a strong relationship between the knowledge and attitudes of healthcare providers about vaccines and their vaccine recommendations for their patients.[2] Healthcare professionals are considered the most reliable source of information on vaccines. Health sector workers who are hesitant about vaccination can somewhat weaken trust and have a strong impact on vaccine hesitancy in the general population.[3]

The presence of those who did not volunteer for influenza vaccination in recent years has been discussed. The few studies available on the attitudes of healthcare professionals primarily concern seasonal or pandemic influenza vaccines. It was found that most healthcare workers did not get the flu vaccine because of lack of time, not feeling at risk of influenza, or concerns about safety and effectiveness.[4] In Turkey, it was detected that 6.7% of health care workers are having regular flu vaccine every year, while 55% of them never had before in their life. The biggest obstacle to vaccination has been determined as not believing the necessity of vaccination.[5]

Nowadays, COVID-19 vaccination studies have come to the fore because of the COVID-19 pandemic, especially for health personnel that is working in the frontline and have much more risk. The determination of the acceptance of the COVID-19 vaccine by the health personnel will also be a guide for the upcoming vaccination studies. For this reason, we aimed to determine the acceptance status of COVID-19 vaccine amongst healthcare professionals in Turkey.

2 | MATERIALS AND METHODS

This cross-sectional study was conducted in Izmir between the dates of 17th and 20th September 2020, just on the days of vaccination study was started. A total of 1138 healthcare personnel who filled

the forms completely were evaluated. The survey is consisting of 15 questions, was delivered via social media, and was filled out by the participants on "Google Forms." Before starting the survey, the consent of the persons was obtained in the system and it was applied anonymously. The survey's sociodemographic characteristics and desire, hesitation, and reasons for getting COVID-19 vaccine were questioned.

The data of the research were evaluated with the SPSS 22.0 programme. The relationship between the decision to be vaccinated and some characteristics of the healthcare personnel was evaluated with the chi-square test. For statistical significance, $P < .05$ was accepted.

The permission of the Ministry of Health and the approval of the University of Health Sciences, Tepecik Research and Educational Hospital Ethics Committee (Date: Sept. 16, 2020; No: 2020/09-16) were obtained to conduct the study.

What's known

- Vaccine hesitancy is an important public health problem
- There is a strong relationship between the attitudes of healthcare providers about vaccines and their vaccine recommendations for their patients
- There is no data avaible regarding COVID-19 vaccine hesitancy in Turkey

What's new

- Particularly younger health workers and students were more inclined to get vaccinated.
- It is common among health workers to have anxiety over the possible side effects of COVID-19 vaccine

3 | RESULTS

Sociodemographic characteristics of the participants are shown in Table 1. Most of the participants are women, students in the young age group, and healthcare professionals living in the city. While most of the participants did not have pneumonia and flu vaccine, they declared that they had a tetanus vaccine. Although most of the healthcare professionals stated that there is still no protective vaccine for COVID-19, 68.6% of them stated that they could be vaccinated (Table 2).

Factors associated with the willingness of healthcare professionals to get the COVID-19 vaccine are monitored in Table 3. Profession (chi-square: 16 732, *P*: .010), previous flu vaccination status (chi-square: 20 067, *P*: .000), age groups (chi-square: 22 817,

TABLE 1 Demographic variables of the participants

Characteristics	N	%
Sex		
Male	313	27.5
Female	825	72.5
Age groups		
15-24	1020	89.6
25-34	65	5.7
35-44	19	1.7
45+	27	2.4
Occupation		
Physician	53	4.7
Nurse/Midwife	306	26.9
Student (Medicine&Nurse)	694	61.0
Other[a]	80	7.0
Living place		
City	683	60.0
Town	349	30.7
Village	106	9.3
Smoking		
Yes	174	15.3
No	923	81.1
Quit	41	3.6

[a]Pharmacist, health technician, lab workers, officer, secretary, cleaning personnel.

TABLE 2 Status of previous and COVID-19 vaccination

Variable	N	%
Influenza vaccination		
Yes	312	27.4
No	603	53.0
I do not know	223	19.6
Pneumonia vaccination		
Yes	123	10.8
No	713	62.7
I do not know	302	26.6
Tetanus vaccination		
Yes	930	81.7
No	109	9.6
I do not know	99	8.7
Does COVID-19 vaccination available?		
Yes	55	4.8
No	659	57.9
I do not know	422	37.1
If effective and safe vaccine is available for COVID-19, do you accept to be vaccinated with?		
Yes	781	68.6
No	130	11.4
Indecisive	227	19.9

TABLE 3 Distribution of factors associated with vaccination acceptance

	Do you accept vaccination for COVID-19			
Variable	**Yes**	**No**	**I do not know**	***P* value**
Sex				
Male	234 (74.8)	39 (12.5)	40 (12.8)	<.05
Female	547 (66.3)	91 (11.0)	187 (22.7	
Age groups				
15-24	719 (70.5)	108 (10.6)	193 (18.9)	<.05
25-34	33 (50.8)	15 (23.1)	17 (26.2)	
35-44	9 (47.4)	2 (10.5)	8 (42.1)	
45+	16 (59.3)	2 (7.4)	9 (33.3)	
Occupation				
Physician	27 (50.9)	10 (18.9)	16 (30.2)	<.05
Nurse/Midwife	200 (5.4)	42 (13.7)	64 (20.9)	
Student (Medicine&Nurse)	502 (72.3)	67 (9.7)	125 (18.0)	
Other[a]	49 (61.3)	10 (12.5)	21 (26.3)	
Living place				
City	476 (69.7)	74 (10.8)	133 (19.5)	
Town	230 (65.9)	44 (12.6)	75 (21.5)	
Village	75 (70.8)	12 (11.3)	19 (17.9)	
Presence of chronic disease				
Yes	101 (64.7)	18 (11.5)	37 (23.7)	
No	680 (69.2)	112 (11.4)	190 (19.3)	
Did you have pneumonia vaccination before				
Yes	84 (68.3)	14 (11.4)	25 (20.3)	
No	478 (67.0)	89 (12.5)	146 (20.5)	
I do not know	217 (72.3)	27 (9.0)	56 (18.7)	
Did you have tetanus vaccination before				
Yes	642 (69.0)	104 (11.2)	184 (19.8)	
No	77 (70.6)	17 (15.6)	15 (13.8)	
I do not know	60 (61.9)	9 (9.3)	28 (28.9)	
Did you have influenza vaccination before				
Yes	235 (75.3)	26 (8.3)	51 (16.3)	<.05
No	379 (62.9)	82 (13.6)	142 (23.5)	
I do not know	166 (74.8)	22 (9.9)	142 (23.5)	

[a]Pharmacist, health technician, lab workers, officer, secretary, cleaning personnel.

P: .001), gender (chi-square: 13 891, *P*: .001) and the desire to get COVID-19 vaccine were found to be related. Men, students, the younger age group, and those who had a previous flu shot were all willing to get the COVID-19 vaccine. Those who hesitate to vaccinate; they put forward the reasons that they think the vaccine may have side effects, they do not trust the vaccine because it is a new one, they do not believe the vaccine will work, they trust their own immune system, they do not need to be vaccinated because they are protected from the disease, and they are not afraid of getting sick.

4 | DISCUSSION

In this study, the opinions of healthcare professionals on this issue were evaluated just before the COVID-19 vaccine administration started. In the study, it was determined that 68.6% of the healthcare workers were willing to get the COVID-19 vaccine. Similar results were found in previous studies. In a study conducted amongst nurses in Hong Kong, planning to have the COVID-19 vaccine was determined as 63%.[6] Moreover, in Malta, only half of the participants stated that they could accept it.[7]

In the present study, participants who were hesitant about the COVID-19 vaccine declared two main reasons; not trusting the vaccine and worrying about its side effects. This result confirms previous studies that show healthcare workers' concern about new vaccines. The results of qualitative interviews with healthcare professionals from Croatia, France, Greece, and Romania suggest that the study is hesitant about vaccination amongst healthcare professionals. Reasons include concerns about the safety of the vaccine, and lack of confidence in the vaccines, and/or pharmaceutical companies and health authorities. Some physicians in Europe who practice homeopathy and who are totally against vaccination have already reported that they are also against the COVID-19 vaccine. Healthcare professionals have also found distrust of pharmaceutical companies because of the lack of information on the financial interests of the pharmaceutical companies and the side effects of vaccine.[3]

In the present study, when the factors related to the desire to be vaccinated are examined; men, students, younger age groups, and those who have had the flu vaccine were willing to get the COVID-19 vaccine. In the study conducted in Malta, men and those who had a previous flu vaccine were found to be more willing.[7] Younger nurses in Hong Kong were also found willing to vaccinate.[6]

The limitations of the study were; reaching and responding to participants through social media and in a short time, and being a cross-sectional study that cannot fully prove the causal relationship. Moreover, the strengths of the study are that it is the first in our country and gives an idea about this issue.

COVID-19 vaccine acceptance may vary according to the time-varying morbidity and mortality values of the ongoing pandemic. Concerns about the COVID-19 vaccine stem mostly from insufficient information about a new vaccine and potential side effects, especially in the long term. It will increase the knowledge of all healthcare professionals about the vaccine, including the planning and administration of the new vaccine, relieve their doubts and concerns, and thus facilitate both their own vaccination and their advice to society. Strategies to increase confidence in vaccines should be determined according to their social, cultural, and economic characteristics. Future studies will show whether the concerns expressed in this study can be addressed with new information about the COVID-19 vaccine.

In conclusion, despite the uncertainty of vaccine features such as efficacy, side effects, and duration of protection, 68.6% of the respondents stated that they wanted to receive COVID-19 vaccine. Considering that especially the reluctant elderly group is more risky in terms of illness, information programmes can be organised for older healthcare professionals.

DISCLOSURE

The authors have declared no conflicts of interest for this article.

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